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ChemicalDrift: Lagrangian modelling of transport and fate of chemicals in the ocean

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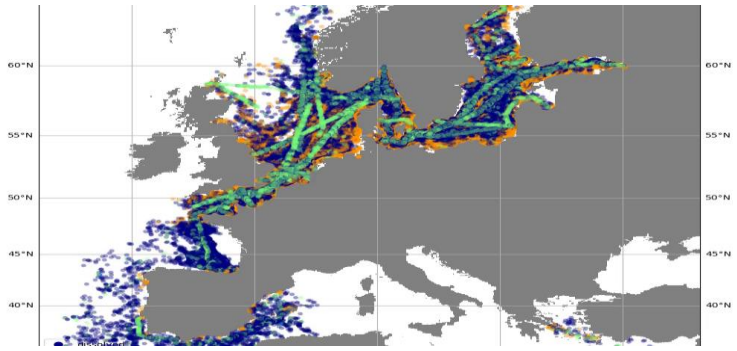

ChemicalDrift currently supports transport and fate of organic compounds and heavy metals. Partitioning between the different physico-chemical species is calculated dynamically, including dissolved chemicals, sorbed to dissolved/suspended particles, and sorbed to sediments. Degradation and volatilization are also calculated for organic compounds, including the dependency on temperature, salinity, mixed layer depth, and winds. A database with parameters for selected polycyclic aromatic hydrocarbons (PAHs) is included.

ChemicalDrift is built as a module of OpenDrift, the open source Lagrangian framework developed by MET Norway for modeling the trajectories and fate of objects or substances drifting in the ocean. OpenDrift is highly flexible and can be interfaced to different formats of metocean forcing data. Interface to CNR ISMAR SHYFEM is supported and will be used for simulations of the fate and transport of chemicals emitted from marine traffic in the north Adriatic and the Venice lagoon within the scope of the EU project EMERGE.